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Water management in ontario

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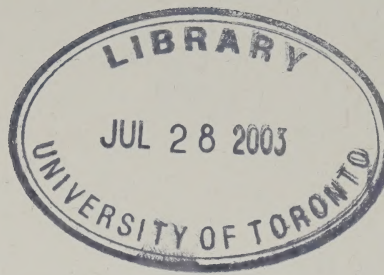






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Water: Basis Of Life

Water is the basis of all life on this earth. Without water, life as we know it could not exist.

Organized communities depend on the availability of water—to grow food, to drink, to feed livestock, and on which to travel and trade. Water is the basis of steam, produces electric power and plays an important role in many industrial processes.

When water has receded or become unfit for use, civilization has ebbed with it. Some of the vast desert areas of the world were once rich in water, in vegetation and animal life.

The distress caused by the fall in the levels of the Great Lakes during the 1960's and the results of the severe drought on the Canadian Prairies during the 1930's exemplified the important role water plays in our existence. In many areas there still remain examples of past mismanagement with the resulting loss of usable water through pollution, neglect, waste and the sheer folly of man. Here in Ontario we enjoy a super-abundance of water. Over 17 per cent of the province's area consists of fresh water lakes and rivers. The unending thunder of Niagara Falls, spilling 38 million gallons of water a minute over a cliff 155 feet high and half a mile wide, is a dramatic symbol of the Province's

water resources.

With each passing year, man spreads his dwellings and works over the land of Ontario and water becomes increasingly important.

During the 1930's money for municipal works was in short supply and major problems ensued in the water supply development of community systems. Waste control facilities were entirely neglected. Then came the Second World War and the channeling of funds to the needs of war with the result that the pollution control situation became worse. The post-war period brought with it an industrial boom accompanied by mushrooming cities and towns, with hundreds of square miles being developed into sprawling subdivisions. At the same time, increasing capital costs and high interest rates raised new obstacles to municipalities seeking to meet the demands of water supply and adequate pollution control systems.

As the new concentrations of population spread, municipalities became deeply concerned, even desperate about water shortages. The construction of needed pollution control systems was falling farther and farther behind. By the mid-1950's, the situation was approaching critical proportions.



Meeting The Crisis

In 1955, in recognition of a growing crisis, the Ontario Government established the Ontario Water Resources and Supply Committee to investigate the overall water picture. The following year, as a result of the Committee's findings, the Ontario Water Resources Commission was created by an Act of the Ontario Legislature. Water management of the province's water resources had become a dire necessity. In 1957 the Commission was given direction and powers by the Legislature through the passing of The Ontario Water Resources Commission Act, 1957.

Ontario Water Resources Commission

The Ontario Water Resources Commission is responsible for the development, utilization, treatment and management of water resources, including the provision of adequate pollution control measures, throughout the Province.

The Commission is made up of three to seven members, including a chairman and vice-chairman, each appointed by the Ontario Government. Under the 1957 legislation, since broadened and strengthened by amendment, the Commission has the power to deal effectively with all aspects of water management.

To carry out its program the Commission employs a staff headed by a general manager. Skilled professionals deal with the various aspects of Commission responsibility. Many are almost continually in the field, inspecting, testing, supervising and advising. In the Commission's laboratories building located in the Borough of Etobicoke in northwestern Metropolitan Toronto, experienced technical personnel are engaged in water and wastewater examination, analyses and research.

In brief, the Commission has two major assignments: one to exercise supervision over the water resources of the province, including the equitable distribution and provision of clean water—the other, to finance, build and operate water supply and water pollution control projects.





Organization

The technical operations of the Commission are carried out by eight divisions:

- Construction
- Industrial Wastes
- Laboratories
- Plant Operations
- Project Development
- Research
- Sanitary Engineering
- Water Resources

In addition there are divisions of Administrative Services, and Finance, as well as separate branches which deal with legal, personnel, and public relations and information matters.

Responsibilities

The divisions of Project Development, Construction and Plant Operations mainly concern themselves with the planning, organizing, financial arrangements, construction, and operation of water and pollution control works for the Commission or on behalf of municipalities. The divisions of Laboratories, Research, Industrial Wastes, Sanitary Engineering and Water Resources are charged with the responsibilities of a variety of water resources, pollution control and water management programs. In water and pollution control



construction projects, the Commission has several procedures. It can enter into direct agreements with municipalities on an individual or area basis to arrange, on their behalf, financing, construction and operation of works on terms satisfactory to the municipalities involved. In such cases, the municipalities can take an active part in the operation of these projects through the appointment of local advisory committees. Commission supervisory personnel consult regularly with project staff and local officials. Another method is for the Commission to utilize Provincial Government funds

to build such works for the service of municipalities, with charges related to actual use of the services provided. Area pipelines can be constructed under the latter plan to serve regions in which the supply of water may be inadequate. Similarly, water pollution control—treatment of municipal and industrial wastes—can be handled in the same manner on an area basis with shared treatment facilities.

Water Resources Control

The inventory and management of Ontario's ground and surface water resources are the responsibility of the OWRC's Division of Water Resources. This division deals with the availability of water, its development and its use. The taking of more than 10,000 gallons of water in a day for purposes other than domestic, livestock or fire-fighting requires a permit from the OWRC. Where there is a conflict of use, water taking in amounts less than 10,000 gallons a day may require a permit. The division promotes full development and utilization of water resources.

Where ground water is concerned, the division has a particularly important task. Forty per cent of Ontario's population depends on ground water and this requires the continual collection of ground water and related geological data in order to keep a constant watch on the available supply. Assistance is given to municipalities and others in the development of ground water supplies, and the division licences and regulates the operation of all of the province's water well drillers. Assessment of surface water resources is a continuing responsibility. This

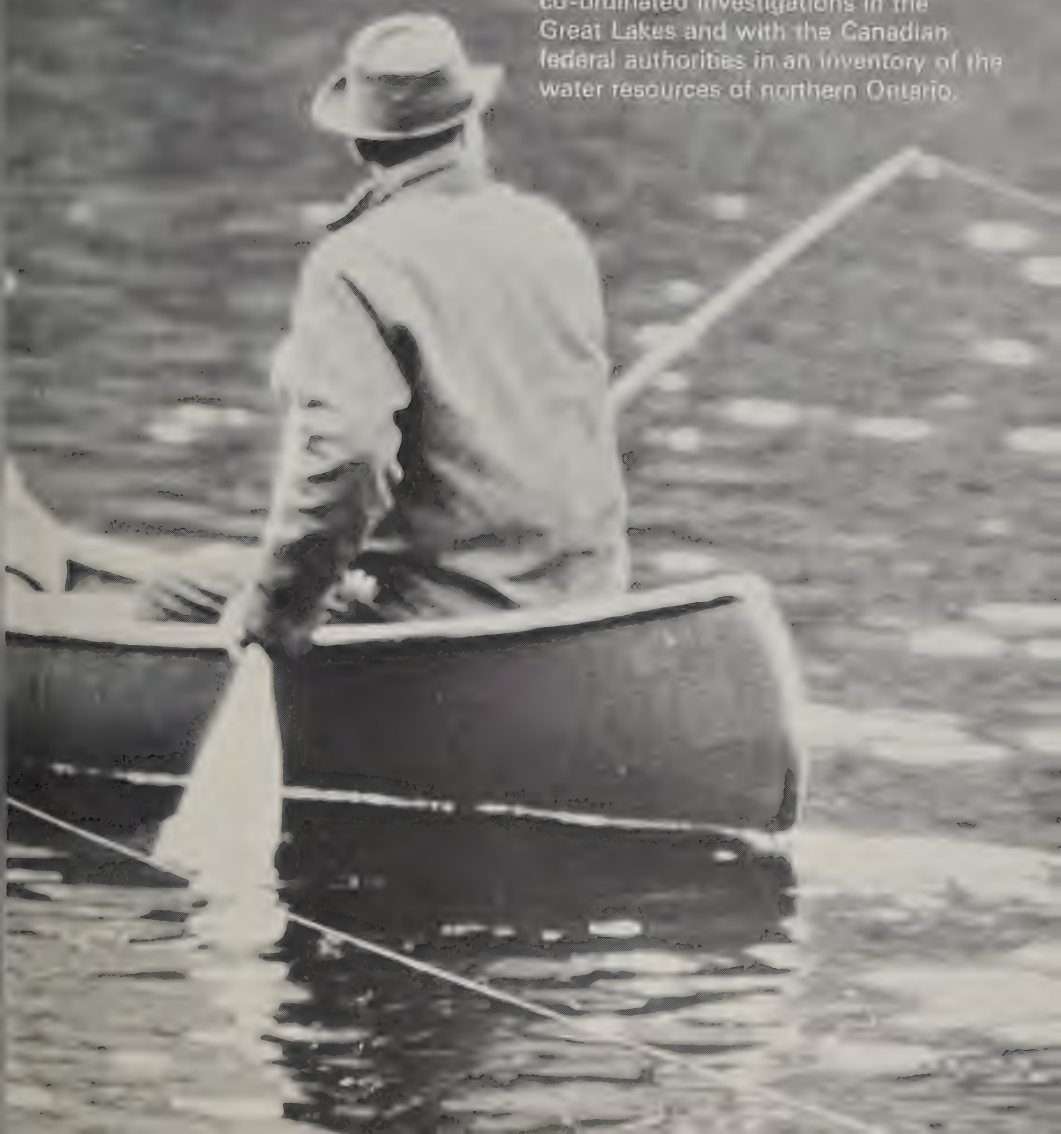


program is supported by hydrometric surveys. Information on water uses, requirements and resources is obtained through county or area surveys undertaken in co-operation with other Commission sections.

The Ontario Water Resources Commission is also involved in the International Hydrologic Decade

through its Division of Water Resources. This is a UNESCO-sponsored program which seeks to improve the science of hydrology and to obtain better understanding and knowledge of the water resources of individual countries and of the world.

The Commission co-operates with the International Joint Commission in co-ordinated investigations in the Great Lakes and with the Canadian federal authorities in an inventory of the water resources of northern Ontario.



Water for Ontario's Farms

While more and more water is being used by a rapidly expanding population and growing industries, one essential part of the economy that cannot be neglected is agriculture.

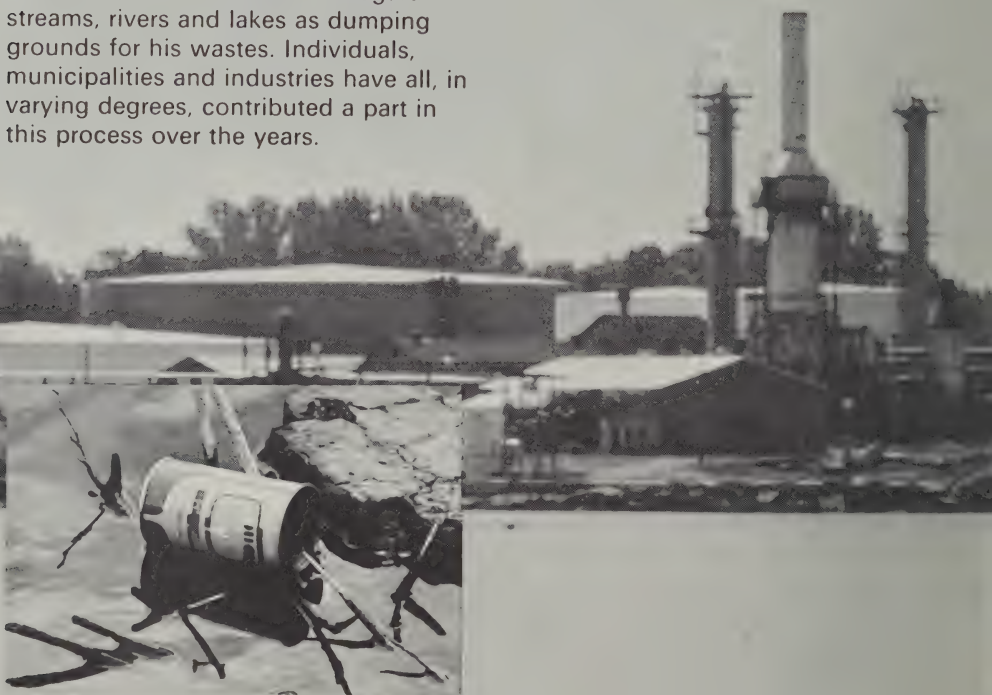
To compound the problems caused by increasing urban demand, the rainfall in some areas of the province may be below normal for several years at a time. As a result, Ontario's farms have to depend to an increasing extent on irrigation. Thus, in its control of resources of supply and distribution of water, the Commission must also make provision for this integral part of the province's economy. If there is to be food, there must be water.



Sanitary Supervision and Pollution Control

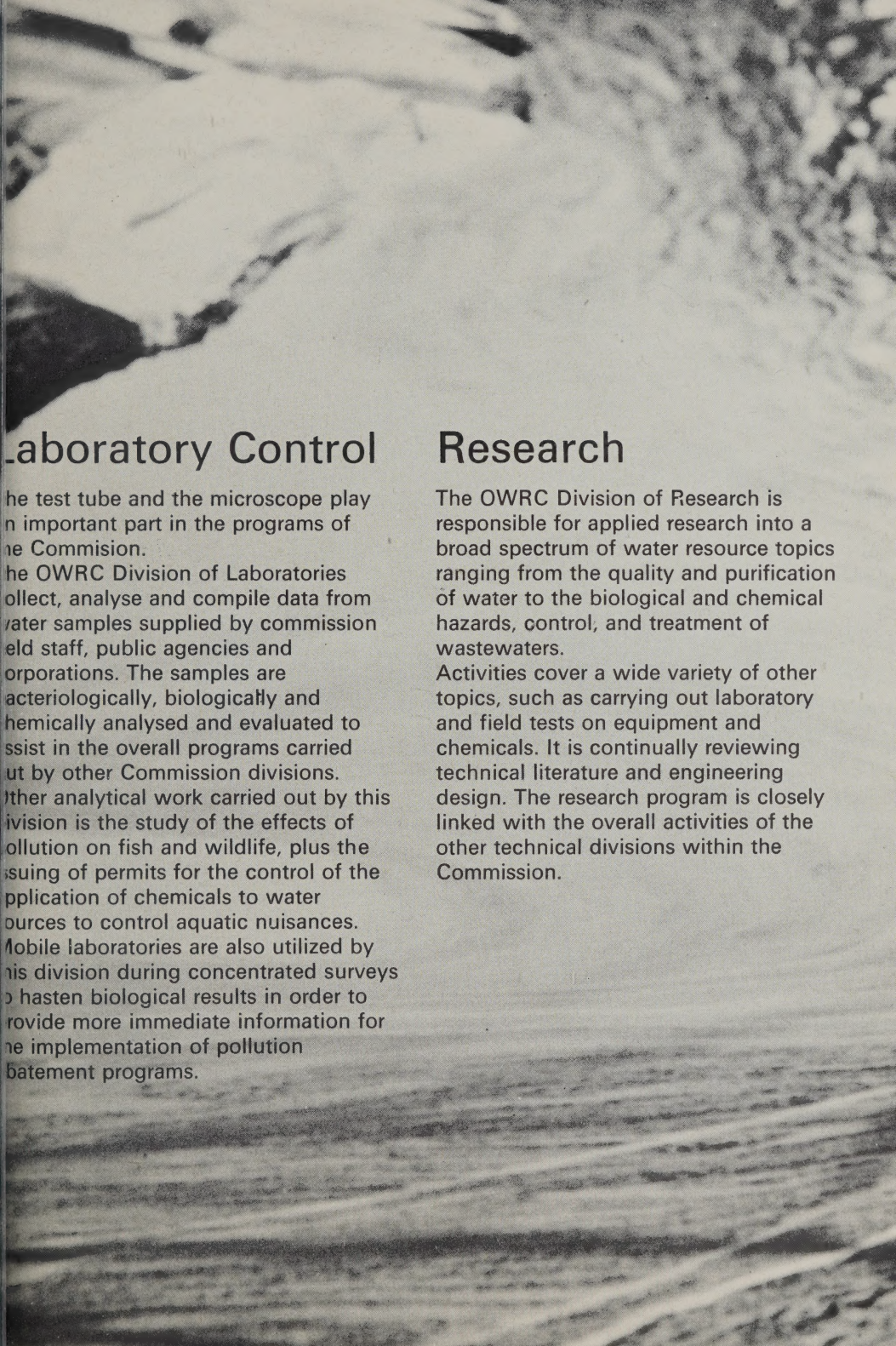
However large the supply, unless water is fresh and clean, it is of little value to the people or the economy. Polluted water, to be made usable, must undergo extensive and usually costly treatment. The solution is to attack the problem of pollution at its source. The great responsibility for both sanitary supervision and pollution control rests with the Commission's Division of Sanitary Engineering. It is through this division that all plans for public water and pollution control installations and extensions have to be approved. The root of the problem of pollution stems from the early settlement of Ontario when man tended to regard streams, rivers and lakes as dumping grounds for his wastes. Individuals, municipalities and industries have all, in varying degrees, contributed a part in this process over the years.

Industrial waste disposal has become particularly acute in recent years, as new and complex manufacturing processes have been developed creating new waste handling problems. Governments can enact laws to make pollution illegal, as has been done in Ontario. However, laws will not ensure the co-operative response of people. Thus, along with the programs of inspection and supervision, OWRC carries out a continuing program of information and education to enlist the aid of the individual in the fight to reduce pollution.









Laboratory Control

The test tube and the microscope play an important part in the programs of the Commission.

The OWRC Division of Laboratories collect, analyse and compile data from water samples supplied by commission field staff, public agencies and corporations. The samples are bacteriologically, biologically and chemically analysed and evaluated to assist in the overall programs carried out by other Commission divisions. Other analytical work carried out by this division is the study of the effects of pollution on fish and wildlife, plus the issuing of permits for the control of the application of chemicals to water sources to control aquatic nuisances. Mobile laboratories are also utilized by this division during concentrated surveys to hasten biological results in order to provide more immediate information for the implementation of pollution abatement programs.

Research

The OWRC Division of Research is responsible for applied research into a broad spectrum of water resource topics ranging from the quality and purification of water to the biological and chemical hazards, control, and treatment of wastewaters.

Activities cover a wide variety of other topics, such as carrying out laboratory and field tests on equipment and chemicals. It is continually reviewing technical literature and engineering design. The research program is closely linked with the overall activities of the other technical divisions within the Commission.

In The Public Service

Adequate supplies of clean, fresh water are indispensable to the well-being of the people of Ontario and to the economic development of the province. If supply does not meet demand, if pollution threatens supply or kills off natural life in lakes and streams, if public health is endangered by improper disposal of wastes—if in any way the Province's bounty of water is imperilled, then every person in Ontario will suffer because of these adverse effects.

It is the responsibility of the Ontario Water Resources Commission to see that this does not happen.

The Commission invites the co-operation of industry, of public and private agencies and of individual citizens to protect this priceless heritage.

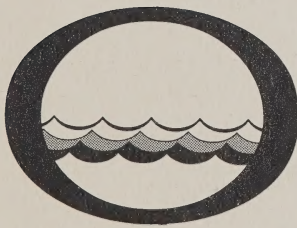
A continuous program of public education through progressive communications and information is designed to create awareness and public interest in Ontario's water management program.

Regional offices located strategically throughout the province are an extension of the commission's head office services and offer more immediate attention to local water management problems.



Watercare is OWRC's main concern. Public interest and involvement will alleviate that concern.

For further information
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Water management in Ontario

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